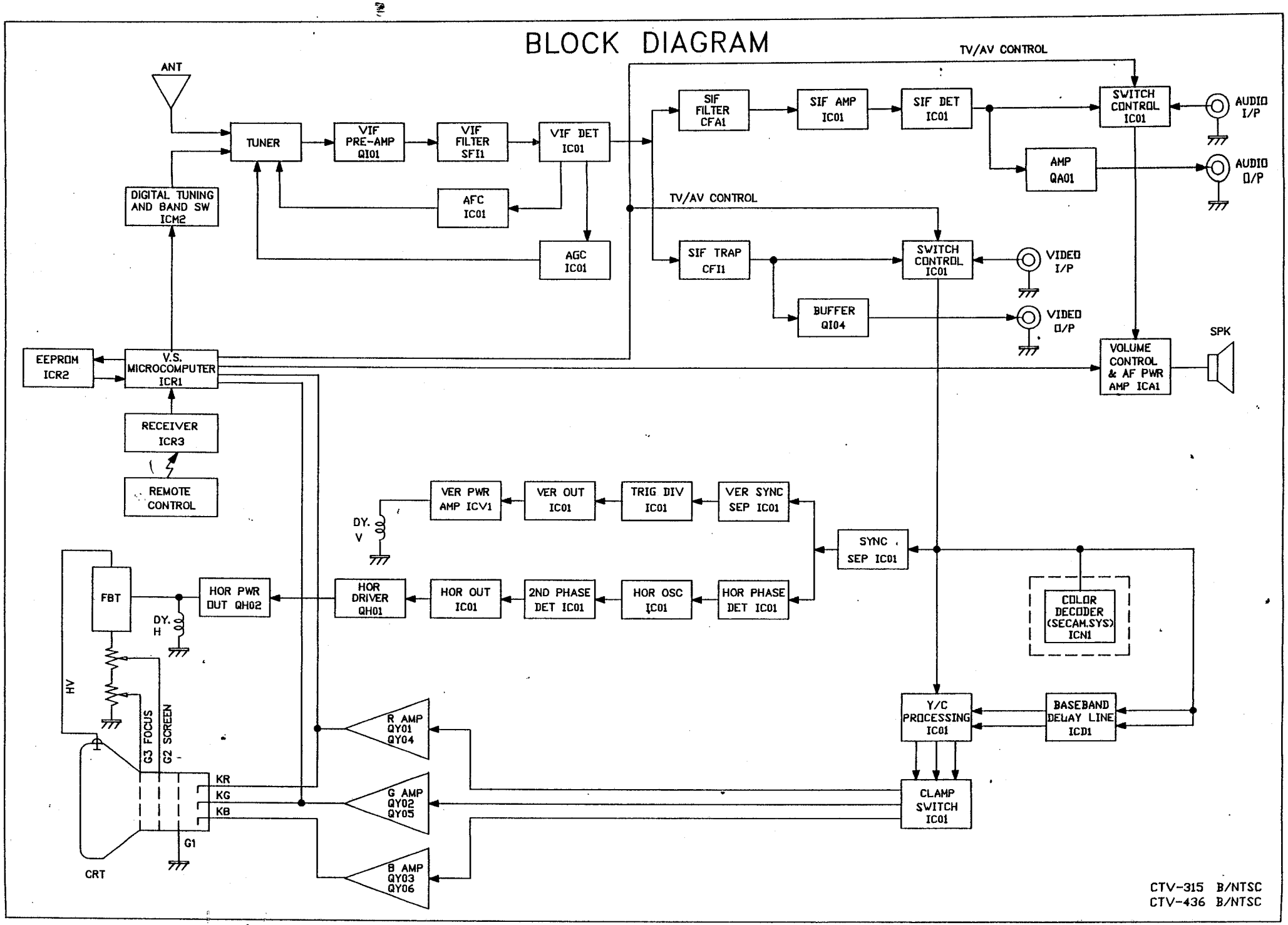
its ICE

Service Manual

TV 1460 ICE Hyperbandtuner

BLOCK DIAGRAM



CTV-315 B/NTSC
CTV-436 B/NTSC

REVISION	0

ACTION ELECTRONICS CO.. LTD
TV ELECTRICAL SPECIFICATION

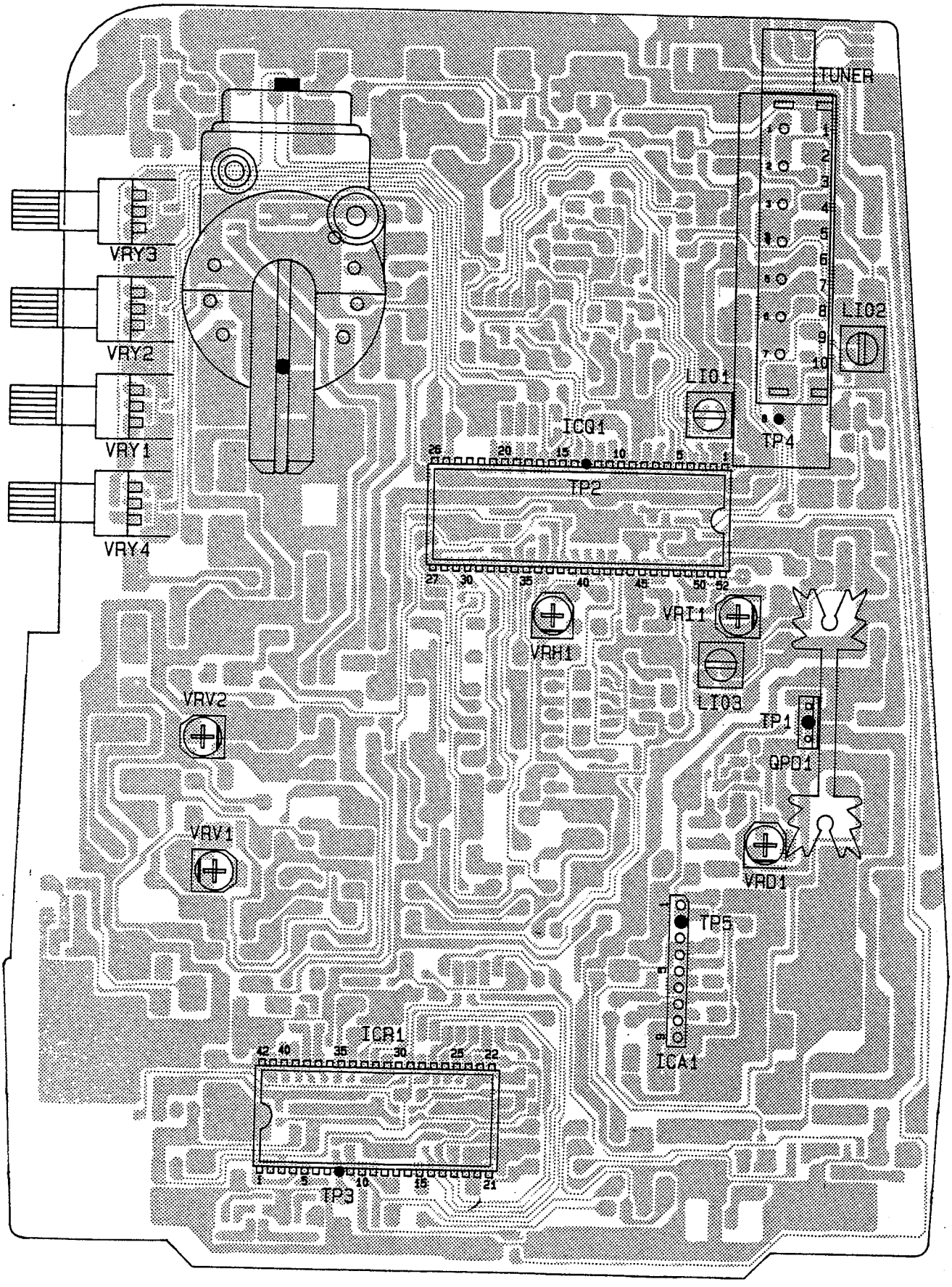
MODEL NO: CTV-315B/BF OUTPUT: 50mW DATE: 82/03/25
SUPPLY VOLTAGE : DC 13.5 V LOAD : 16 ohm TEST:
GERERAL INFORMATION : TV 75 OHM INPUT ANT. SIFE VOLTAGE 0 dB =1uV

DESCRITION		UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
VL BAND										
TUNING RANGE	HIGH	MHZ	62.25	65.00						
	LOW	MHZ	48.25	45.00						
MAX/USABLE SENS	CH - 2	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 3	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 4	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 3	dB	40	50						
IMAGE REJ.	CH - 3	dB	40	50						
VH BAND										
TUNING RANGE	HIGH	MHZ	224.25	230.0						
	LOW	MHZ	175.25	140.0						
MAX/USABLE SENS	CH - 5	dB	32/46	26/40	/	/	/	/	/	/
	CH - 9	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 12	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 9	dB	50	60						
IMAGE REJ.	CH - 9	dB	40	50						
UHF BAND										
TUNING RANGE	HIGH	MHZ	855.25	870.0						
	LOW	MHZ	471.25	468.0						
MAX/USABLE SENS	CH - 21	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 30	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 40	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 50	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 69	dB	36/52	32 /46	/	/	/	/	/	/
IF REJ.	CH - 40	dB	40	50						
IMAGE REJ.	CH - 40	dB	40	50						
ADJ. PIX. ATT.		dB	20	30						
ADJ. SND. ATT.		dB	20	30						
SELF. SND. ATT.		dB	20±6							
CONTRAST RANGE		dB	3	4						

91-95-8003

DESCRITION	UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
SOUND									
MAX. OUTPUT	mW	700	900						
THD. OUTPUT 10 %	mW	600	700						
REF. THD	%	5	3						
S / N	dB	30	35						
AM SUPP.	dB	20	30						
MIN. HUM	mV	30	15						
RESPONSE FH 6 KHZ	dB	-3± 12							
FL 125 HZ	dB	-3± 6							
SIF. FREQ. ERROR	KHZ	± 100	0						
LIMIT SENS.	dB	85	75						
PICTURE									
HOR . FREQ .	HZ	± 500	0						
HOR. PULL-IN +	HZ	300	600						
_	HZ	300	600						
LINEARITY VERT.	%	15	10						
HOR.	%	30	20						
PINCUSHION DIST.	%	2	1						
BARREL DIST.	%	2	1						
KEYSTANE DIST.	%	2	1						
OVERSCAN V/H	%	15/15	8/8						
LUMINANCE MAX	lux	150	200						
MIN	lux	50	30						
VA TEST									
H. V. MAX	KV	11.2± .5	11.2						
H. V. MIN	KV	10± .5	10						
REG. VOLTAGE	V	10.6± .1	10.6						
DELAY AGC. VOLTAGE	V	4.5± .5	4.5						
DC CONSUMPTION	W	25	22						
AC CONSUMPTION	W	35	30						

CHASSIS ALIGNMENT POINTS



ALIGNMENT PROCEDURE

REGULATOR ADJUSTMENT

1. CONNECT TV UNIT TO DC 12V~14V POWER SUPPLY & TEST PATTERN GENERATOR.
2. CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURACY VOLTMETER TO THE COLLECTOR OF THE REGULATOR OUTPUT TRANSISTOR QPD1.(TP1)

HORIZONTAL OSCILLATOR ADJUSTMENT

1. POWER ADJUSTMENT
   ADJUST THE REGULATOR VRD1 TO DC 10.8V.
2. VERTICAL HIGHTNESS ALIGNMENT
   ADJUST THE VERTICAL HIGHTNESS VRV1 & VRV2, ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.
3. HORIZONTAL POSITION ALIGNMENT
   ADJUST HORIZONTAL POSITION VRH1, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.
4. RF AGC ALIGNMENT
   ADJUST VIF PROCESS AGC CONTROL VRI1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB, THE SCREEN DON'T INFLECT.
5. WHITE BALANCE ALIGNMENT
   ADJUST THE VRY5, VRY8, AT CENTER POSITION. ADJUST SCREEN VR, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST VRY8 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST VRY5 LET THE SCREEN APPROACH TO WHITE.
6. FOCUS ADJUSTMENT
   ADJUST FOCUS VR, LET THE STRIP IN THE SCREEN TO BE CLEAR.
7. SCREEN ADJUSTMENT
   ADJUST SCREEN VR LET THE BRIGHTNESS SUIT AS DESIRED.

ALIGNMENT PROCEDURE

GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

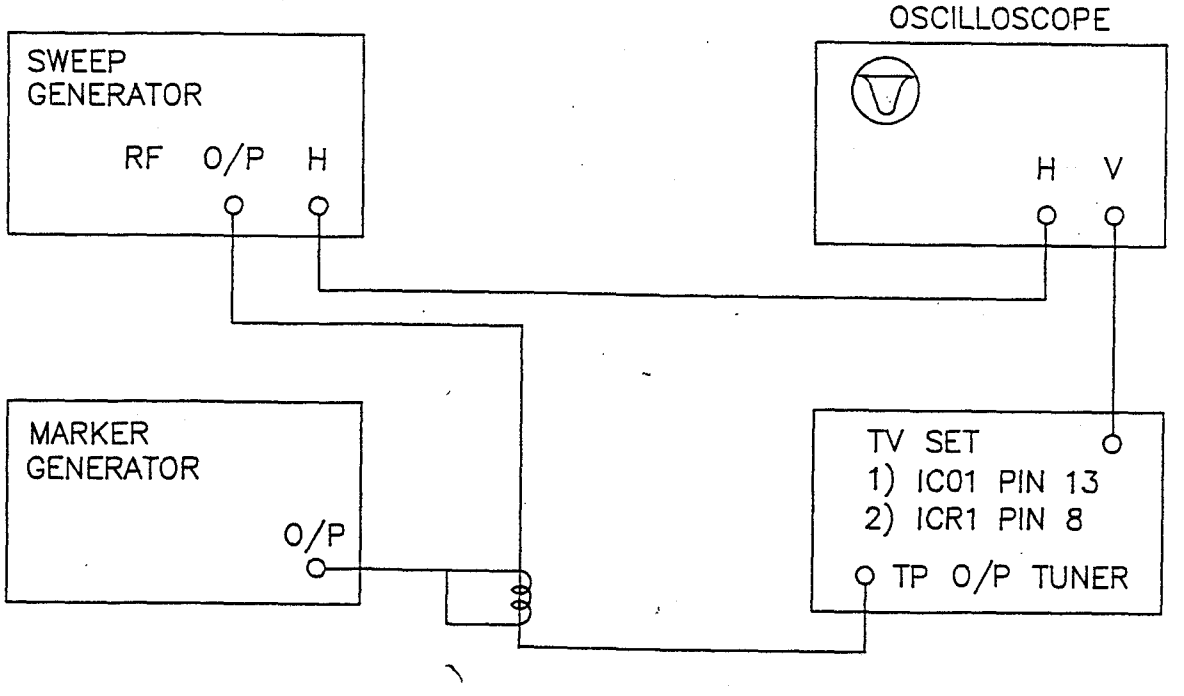
TEST EQUIPMENT CONNECTION (SEE FIGURE).

OSCILLOSCOPE: CONNECT TO THE (1). IC01 PIN 13. (TP2)
(2). ICR1 PIN 8.. (TP3)

SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO THE TEST POINT (TP4) OF THE TUNER.

MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE			
STEP	SWEEP FREQUENCY	MARKER FREQUENCY	REMARK
ADJUST VIF DETECTOR LI01 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B, G, H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M, N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.



VIDEO IF ALIGNMENT CONNECTING FIGURE

ALIGNMENT PROCEDURE

2. SOUND IF ALIGNMENT

TEST EQUIPMENT CONNECTION

SIGNAL GENERATOR: CONNECT TO TEST POINT (TP4) OF THE TUNER THROUGH A MATCHING PAD.

OSCILLOSCOPE: CONNECT TO THE ICA1 PIN 2. (TP5)

ALIGNMENT PROCEDURE

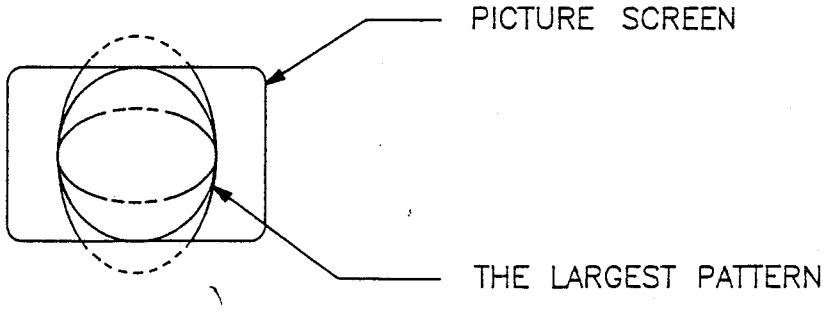
STEP	GENERATOR	SCOPE
DON'T ADJUST (PLEASE CHECK)	SYSTEM B, G, H, 33.4 MHz SYSTEM M,N 41.25 MHz (54.25 MHz FOR JAPAN) SYSTEM I 33.5 MHz. SYSTEM D,K, 32.4 MHz, 1 KHz FM MOD DEVIATION 25 KHz 80 dB OUTPUT.	CONNECT TO THE ICA1 PIN 2

3. VERTICAL DEFLECTION ALIGNMENT

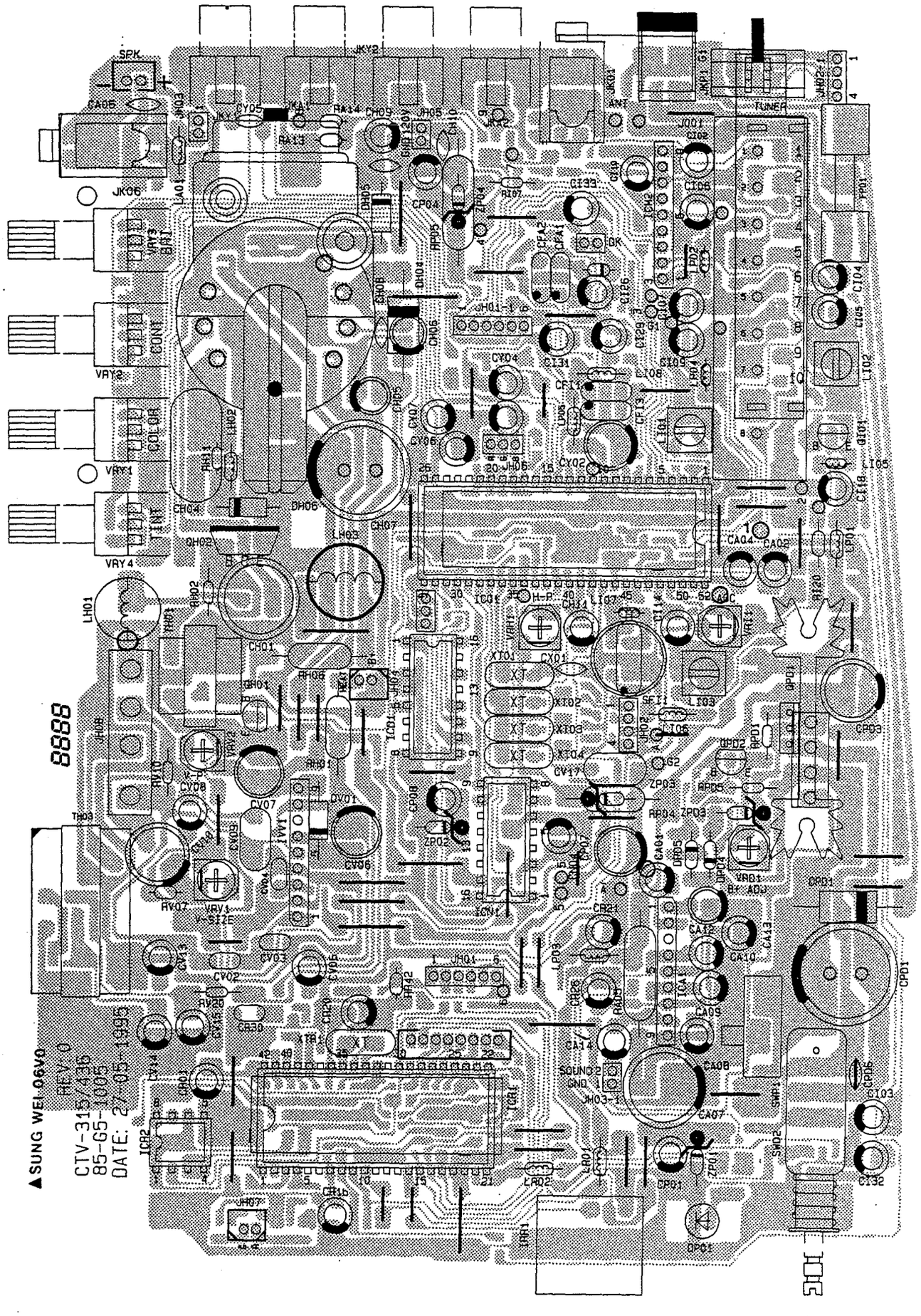
(1) TUNE THE RECEIVER IN A TEST PATTERN.

(2) ADJUST V-SIZE CONTROL VRV1 (300 ohm). WHEN THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND PATTERN. (SEE THE FIGURE)

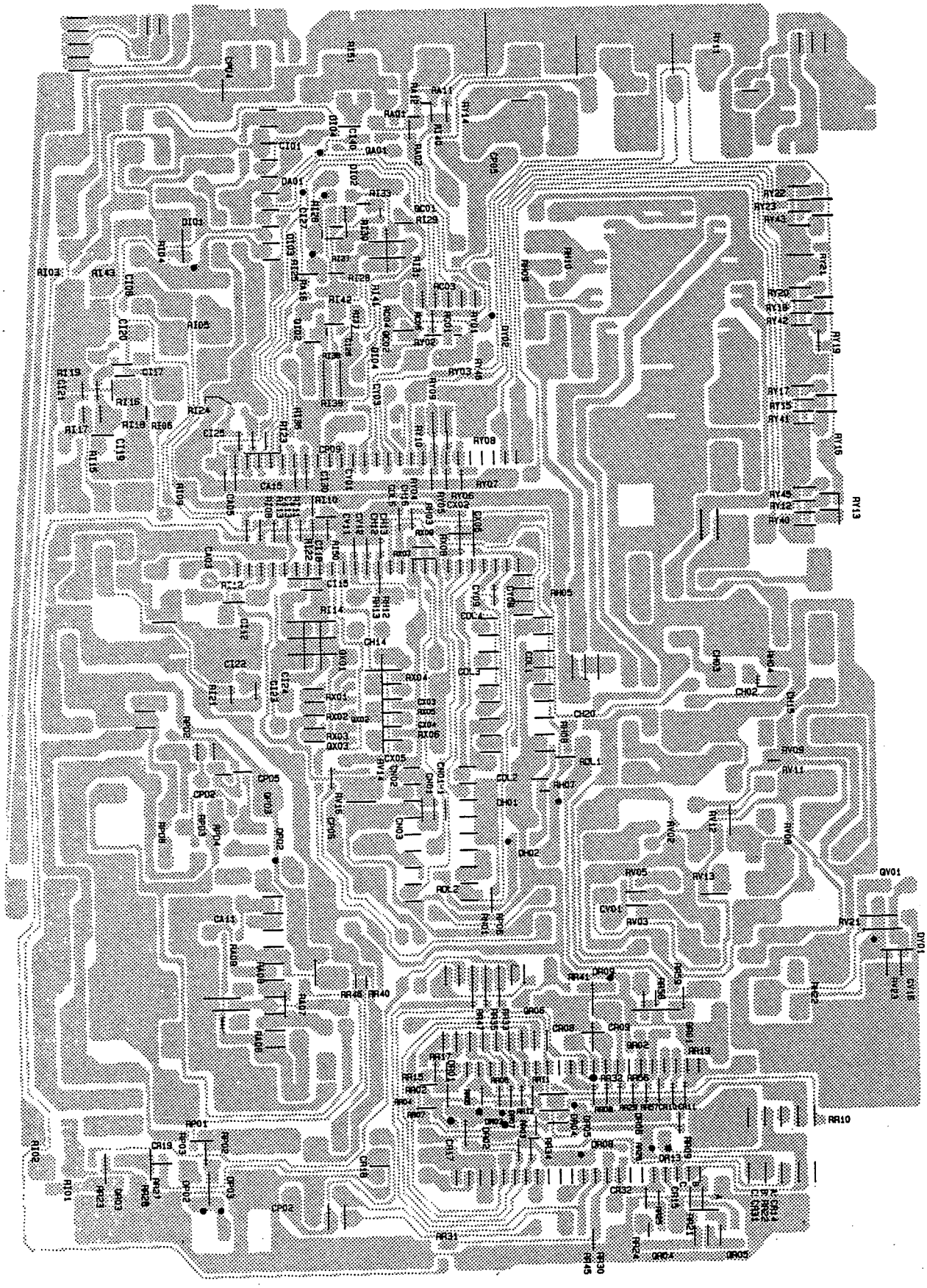
(3) IF THE PATTERN NOT AT CENTER POSITION, ADJUST V-POSITION CONTROL VRV2 (2KB OHM).



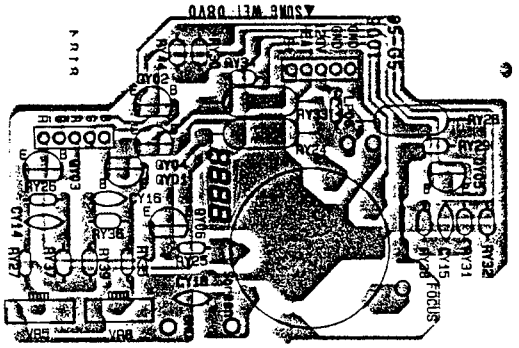
MAIN P.C.B TOP VIEW


SUNG WEI 06V0
REV 0
CTV-315/436
85-65-1005
DATE: 27-05-1995
8888
SPK
JKY2
JKY1
JKA1
JKA2
JKO1
JKO6
ANT
TUNER
VRY3
BRI
VRY2
CONT
VRY1
COLOR
VRY4
TINT
H-P
V-SIZE
V-LIN
V-SLOPE
V-POS
V-AMP
V-CENT
V-S-CORR
H-SIZE
H-PHASE
H-CENT
H-AFC
H-VCO
H-LOCK
H-DRIVE
H-BLK
H-FLY
H-DEF
H-S-CORR
H-AMP
H-CENT
H-PHASE
H-SIZE
H-LOCK
H-VCO
H-AFC

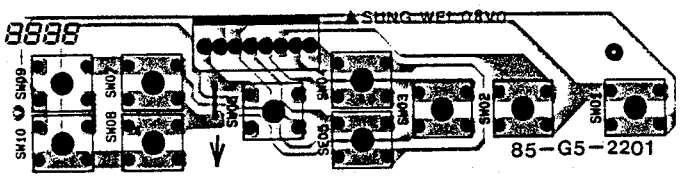
MAIN P.C.B BOTTOM VIEW



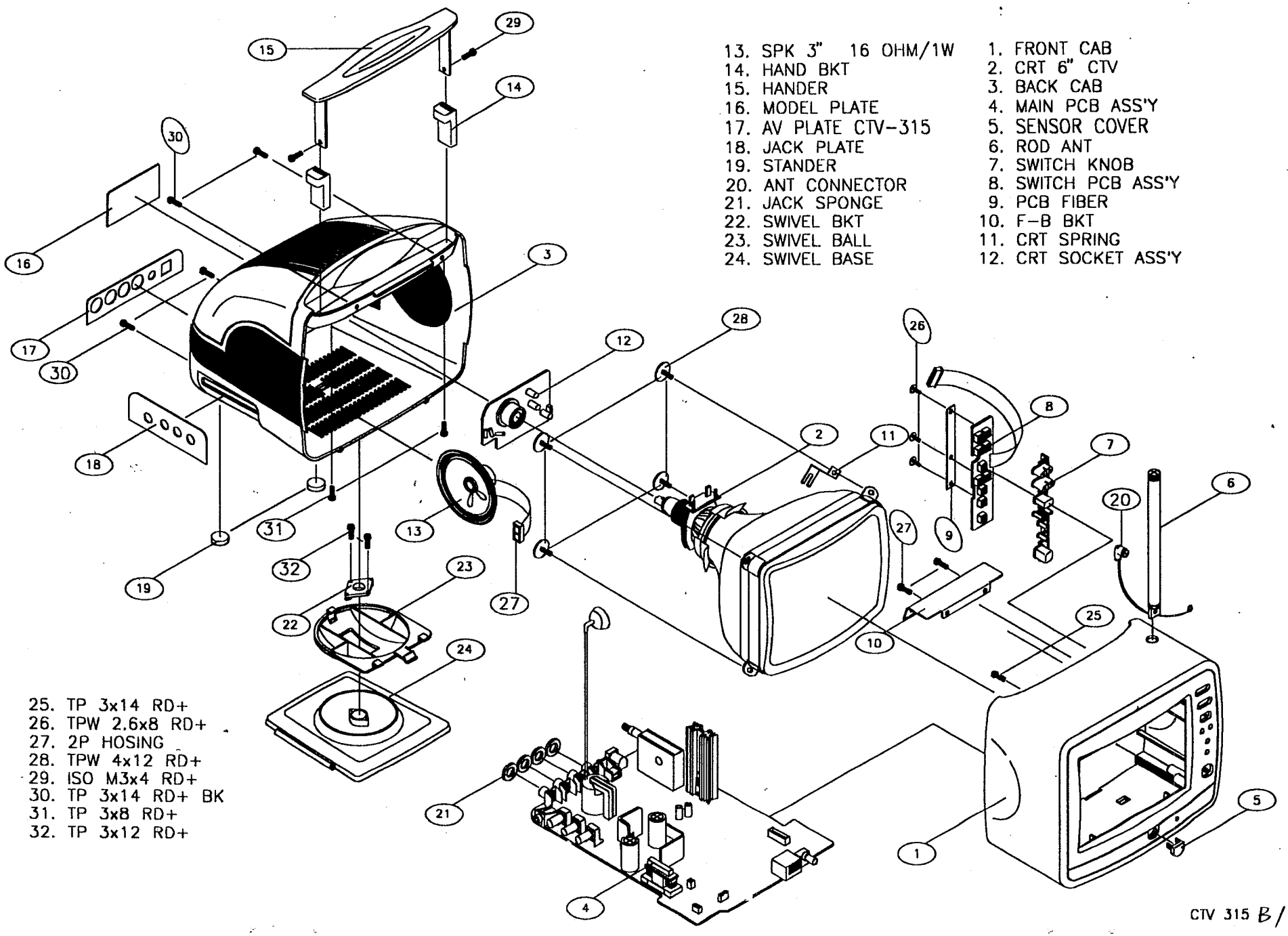
CRT SOCKET P.C.B TOP VIEW



TACT SWITCH P.C.B TOP VIEW



EXPLODE VIEW

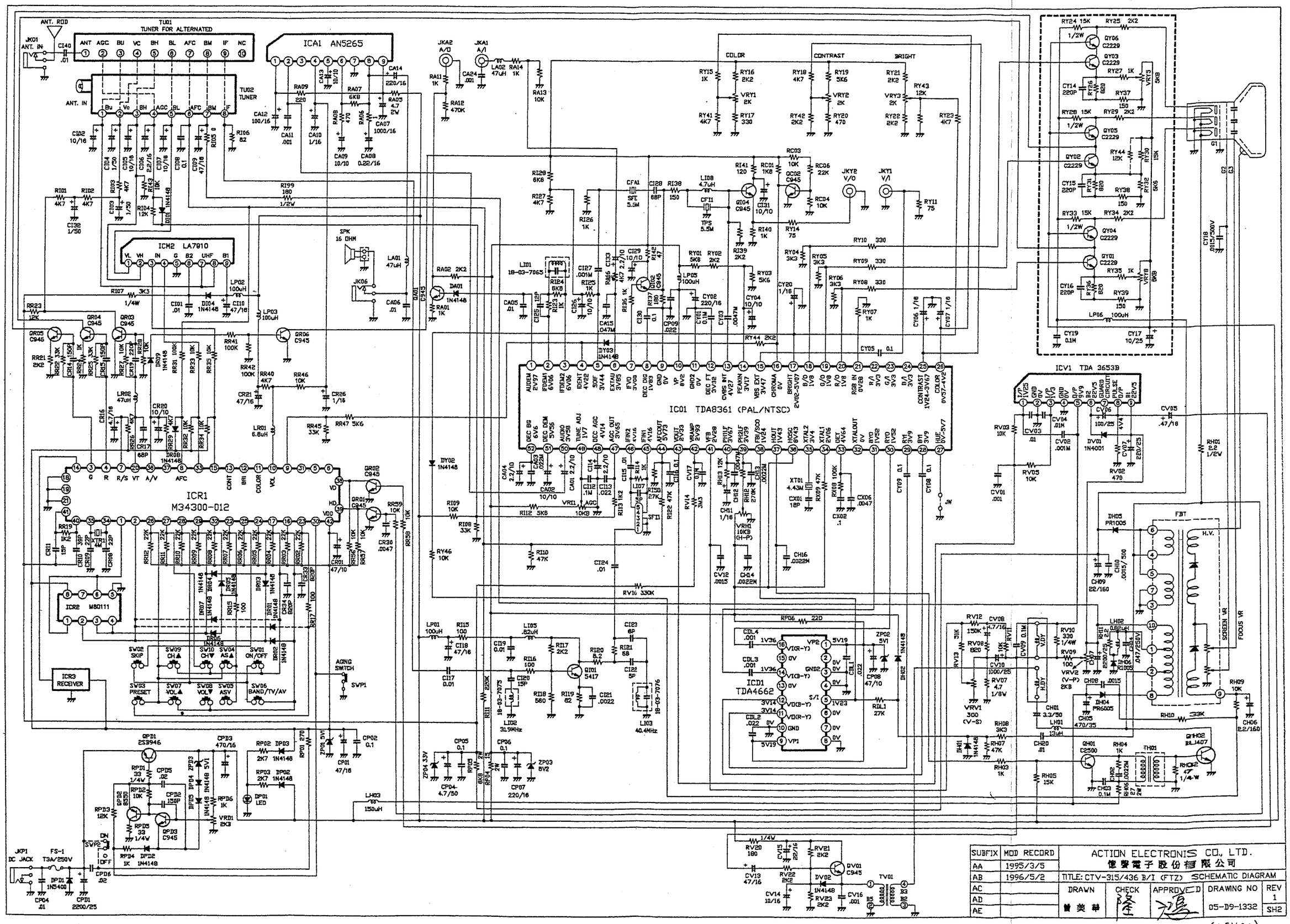


13. SPK 3" 16 OHM/1W
14. HAND BKT
15. HANDER
16. MODEL PLATE
17. AV PLATE CTV-315
18. JACK PLATE
19. STANDER
20. ANT CONNECTOR
21. JACK SPONGE
22. SWIVEL BKT
23. SWIVEL BALL
24. SWIVEL BASE

1. FRONT CAB
2. CRT 6" CTV
3. BACK CAB
4. MAIN PCB ASS'Y
5. SENSOR COVER
6. ROD ANT
7. SWITCH KNOB
8. SWITCH PCB ASS'Y
9. PCB FIBER
10. F-B BKT
11. CRT SPRING
12. CRT SOCKET ASS'Y

25. TP 3x14 RD+
26. TPW 2.6x8 RD+
27. 2P HOSING
28. TPW 4x12 RD+
29. ISO M3x4 RD+
30. TP 3x14 RD+ BK
31. TP 3x8 RD+
32. TP 3x12 RD+

CTV 315 B/NTSC



SUBFIX	MOD RECORD	ACTION ELECTRONIS CO., LTD. 偉聲電子股份有限公司				
AA	1995/3/5	TITLE: CTV-315/436 B/I (FTZ) SCHEMATIC DIAGRAM				
AB	1996/5/2	DRAWN	CHECK	APPROVED	DRAWING NO	REV
AC						1
AD		曾美華			05-D9-1332	SH2
AE						

(LENCO)